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## A New Genus and Species of Mexican Hylid Frogs

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ABSTRACT: A new genus of hylid frogs, *Ptychohyla*, is described, characterized by a ventrolateral gland of large extent, and a reduced number of nuptial spinules. The genotype, *Ptychohyla adipoventris*, is from Agua del Obispo, Guerrero, México.

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A SMALL hylid frog from the lower parts of the Sierra Madre del Sur of Guerrero, México, differs from other known hylids in the presence of a lateroventral gland of large extent. This character, together with that of the nuptial spines, cause me to set it under this new genus herein described.

### Genus *PTYCHOHYLA* NOVUM

Small hylid frogs having a large ventrolateral gland; dorsal skin not obviously glandular. In male, the rugosities of the nuptial callosities (horny spines), which are confined to the first finger, are relatively large, reduced in number and covering a smaller area than in other hylid genera.

Genotype: *Ptychohyla adipoventris* Taylor.

### *Ptychohyla adipoventris* sp. nov.

*Hyla erythronma* Taylor, Univ. Kansas Sci. Bull., 26, No. 15, 1939 (Nov. 27, 1940), pp. 511, 512 (nec *Hyla erythronma* Taylor 1937).

*Type*. EHT-HMS No. 21592, collected at Agua del Obispo, Guerrero, México, Aug. 31, 1939, by E. H. Taylor.

*Paratypes*. EHT-HMS Nos. 21589-21591, 21593-21594, 26834, 28722. Topotypes, same collector; U. S. Nat. Mus. No. 114551, H. M. Smith, Coll.

*Diagnosis*. A small tree frog, known maximum size, 31.5 mm.,

having a broad, adipose (?) gland extending from near axilla to near groin, and from low on the sides to one-fourth to one-third way across abdomen; vocal sac present in males; 20-50 horny nuptial spines on back and side of first finger, dark brown in color, and not closely spaced; none on other fingers; outer fingers about one-third webbed, toes about four-fifths webbed; distal subarticular tubercle of fourth finger double; tympanum moderately distinct, its diameter about one-half eye diameter; no distinct tarsal fold.

*Description of the type.* A small frog, the snout very short, high, rather abruptly truncate; nostrils very near anterior point of snout; eye diameter (3.3 mm.) about equal to length of snout (3.55 mm.); diameter of tympanum (1.7 mm.) equal half diameter of eye; width of an eyelid (2.2 mm.) very much narrower than interorbital distance (3.5 mm.); canthus well defined; loreal region concave, the sides of lores nearly vertical, then sloping more obliquely to edge of lip; regions about nostrils swollen prominently, with a depression between; tympanum separated from eye by a distance equal to its own diameter; a straight diagonal fold covers upper part of tympanum.

Tongue flat, thin, somewhat papillate, nearly as broad as long, slightly ( $\frac{1}{8}$ ) free behind and slightly emarginate; choanae very large; the prevomerine teeth in irregular transverse groups separated from choanae and from each other by nearly equal distances; openings of palatal glands form a transverse groove, the ends of which turn back anterior to choanae, lying much nearer to premaxillaries than to choanae; openings of the eustachian tubes less than half size of choanae.

Terminal digital disks of outer fingers larger than the tympanum; three outer fingers about one-third webbed, the web between first and second less; large median palmar tubercle low, somewhat tripartite; inner tubercle flat, more elongate; subarticular tubercles small, that on fourth finger double, on third finger bifid; supernumerary tubercles on hand rather indistinct; a fold or ridge on underside of forearm; about sixty horny tubercles on dorsal and posterior sides of first finger; tibiotarsal articulation to anterior edge of eye or a little beyond; no distinct tarsal fold; dilation of the tips of the toes equal to those of fingers; toes three-fourths to four-fifths webbed, the web reaching only as high as the subarticular tubercle on inner side of second and third toes; a large inner metatarsal tubercle, a small outer tubercle more distal than inner; supernumerary tubercles obsolete.

Skin appearing smooth, but under lens dorsal part of head, back and upper part of sides minutely corrugated; a few indistinct pustules on side; surface of large gland covered with minute tubercles or corrugations; chin and throat smooth; breast less so; an indistinct and incomplete breast fold; median and posterior part of abdomen granular; most of ventral surface of femur granular; anal flap broad, followed by a deep vertical groove, the sides of which are glandular.

*Measurements in mm.* Snout to vent, 30; width of head, 11; length of head, 10.2; arm, 18; leg, 47; tibia, 15.5; foot, 20.

*Color.* In life, dark green or greenish-olive, almost uniform in color on the head, back and the upper part of the sides; lower part of sides oily yellow, with numerous small brown or greenish-brown spots sometimes forming short vertical bars; on the venter the gland continues a third way across abdomen on each side, but the dark spots are now minute flecks; middle of abdomen yellowish-white; chin and throat, canary yellow; undersides of thighs and tibia, flesh color; underside of tarsus and foot, purplish; underside of arm and inner toes, whitish-yellow; area about arm insertion, yellow white; upper lip with a few irregular yellowish areas; faint traces of darker areas on back and hind leg, when specimen is submerged in water.

*Variation.* The variation in the size of the gland seems to be an age character; in a young specimen it is wholly lateral, not reaching the ventral surface; in old males it is thickened more and is of greater extent. The gland itself consists of closely packed, bottle-shaped glandules four or five times as long as their transverse diameter; when squeezed, an oily substance is exuded.

*Color variation.* Of the paratypes, Nos. 12594 and 28722 resemble the type very closely in coloration. The last mentioned is a young female and the area occupied by the gland is less, and nearly half the abdomen is free of the gland and is areolate. In this the yellowish-white areas on the lips are more sharply defined. There is a large light spot beginning below the tympanum and running forward and upward so as to include part of the lower eyelid. This light spot encloses a brown spot. The remainder of lip is more yellow than green and shows three spots on each side. One specimen has the upper lip edge almost uniform yellow. In the groin behind the gland there is often a dark-bordered, whitish spot present. In two specimens, the largest male, No. 21590, and a medium sized female, No. 21591, dark spots were visible through the lighter green color and irregular bars were evident on the legs and arms. Eyes reddish.

(In alcohol the olive and green has become brownish, or, in the case of the lighter green specimens, lavender.)

*Remarks.* The frogs were calling, but the distinctive character of the calls could not be ascertained due to the noise of water falling into the pool, over which was spread a glossy leafed shrub, near the water, on which the specimens were perched. They were not especially wary and those seen were taken with ease; other calls were heard higher in trees but we were not certain that these were the same.

Dr. H. M. Smith, who was collecting with me, obtained a specimen from a tree only a short distance away, likewise, near the same noisy rivulet.

At first I was inclined to believe, despite certain differences, that the specimens were the males of the form described as *Hyla erythromma*, a species collected at this locality at the same time of year, and likewise having red eyes. The single type was a female and lacked any trace of the remarkable gland. Female specimens of the present species were obtained in 1941, showing them to be unlike the known female of *H. erythromma*.

The spring and rivulet at Agua del Obispo is the type locality for four small hylids, *Centrolenella viridissima*, *Hyla erythromma*, *Hyla pinorum* and the present *Ptychohyla adipoventris*. The characters distinguishing these four small species are as follows:

1. Body not bright green in life; ventral skin not transparent.
  - A. Eye not red, the tympanum concealed; a sharp, distinct tarsal fold extending entire length of tarsus; no yellow color on lip; tibiotarsal articulation to beyond end of snout; legs regularly barred, with narrow, brown, transverse stripes.....  
.....*Hyla pinorum* Taylor
  - AA. Eye red; tympanum not concealed, none or only a faint trace of a tarsal fold.
    - B. Skin shiny smooth, not corrugated; snout rather pointed; heel to anterior edge of eye; a yellow diagonal stripe on top of upper arm; toes three-fifths or less webbed; nostril small; sole of foot nearly smooth, lacking distinct supernumerary tubercles; no ventrolateral gland.....*Hyla erythromma* Taylor
    - BB. Skin distinctly corrugated; snout rather sharply truncate with swollen area about nostril and depression between; nostril large; terminal pads on digits larger than preceding form; on sole of foot very numerous distinct tubercles and granulations; heel to between eye and nostril; no stripe on arm. A ventrolateral gland.....  
.....*Ptychohyla adipoventris* sp. nov.
11. Dorsal part of body bright green in life, skin transparent on venter.....  
.....*Centrolenella viridissima* Taylor

*Hyla euthysanota* Kellogg, a small frog from El Salvador, differing in having a dermal fringe on arm, foot and tarsus, and above vent, may be congeneric.

While no mention is made of the gland, there is a greatly reduced number of horny, nuptial spines (25) which suggests the

condition obtaining in male *Ptychohyla adipoventris* (25-55 in number). The specimens of *Hyla euthysanota* should be reëxamined to see if a trace of such a gland can be found.

## LITERATURE CITED

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